C2130

CHILTON'S

October 4, 1985

IRON AGE

MANUFACTURING MANAGEMENT

4TH-QUARTER MANUFACTURING FORECAST:

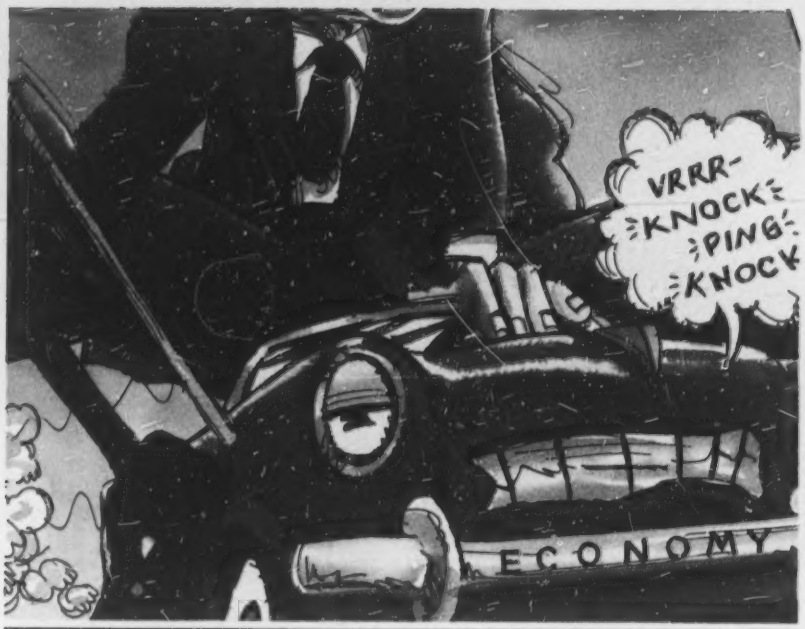
SLOWER BUT STILL GOING

0078399495TCK
FEB27
CONGRESSIONAL INFO SERV
SRI ACQUISITIONS
4520 EAST WEST HWY
BETHESDA MD 20814
DIR

COMPOSITES— THEY'RE CLOSER THAN YOU THINK

OCTOBER 4, 1985 VOL. 228, NO. 19

IRON AGE
MANUFACTURING MANAGEMENT



Editorial 7
Have you driven a Yugo recently?

Newswatch 13
Federal mediators try to end the standoff at Wheeling-Pittsburgh.

The Hot Spot 23
World-scale competition is part of our everyday life.

You and Your Job 25
Corporate entrepreneurs must be carefully nurtured.

Order Trends 26
Up-again, down-again; orders down again.

Fourth Quarter Forecast 28
The slower pace will continue through year's end.

Electric Furnace 50
Single electrode arc furnace comes on stream.

Steel Trade 61
Imports of sheet and plate aren't domestic steelmakers only worries.

Technically Speaking 75
Corrosion lab tests specialty steels in hostile environments.

Materials Report 93
Domestic steelmakers are not convinced that the import flow has ebbed.

Steel By George 100
Nucor deserves its reputation as a steel industry pioneer.

Next Issue: Ladle Metallurgy

Departments

EDITORIAL STAFF	8
SIGNED, SEALED AND DELIVERED	11
INDUSTRIAL BRIEFS	20
PRODUCT & EQUIPMENT REVIEW	78
FREE LITERATURE	89
BUSINESS STAFF	90
AD INDEX	90
MANAGEMENT SERVICE CARD	91
P&P DATA 9/9	94
FERROUS SCRAP 9/9	95
STEEL PRICES	96
CLEARING HOUSE	98

IRON AGE (USPS 269-780) is published 24 times a year by CHILTON COMPANY, Chilton Way, Radnor, PA 19089. Chilton Co. is a division of American Broadcasting Companies, Inc., New York, N.Y. Second Class Postage Paid at Wayne, PA 19087 and additional mailing offices. IRON AGE is sent on a controlled free basis to qualified managers in U.S. metalworking companies. All others: Manufacturing Management edition—$42 one year, $69 Canada/Foreign (24 issues); Metalsproducer U.S. edition—$24 one year (12 issues), $27 one year (6 issues). Single copies, $2.50. Cable Chilton Philadelphia.
Send address changes to IRON AGE, P.O. Box 1440, Riverton, N.J. 08077.

Chilton

ONE OF THE ABC PUBLISHING COMPANIES

ASK NOW ABOUT OVERSEAS WORK

If a manager is interested in possibly going with the international operations of his company, now is a good time to ask his boss about it. Reason: The high-valued U.S. dollar has "drastically reduced the cost of employing U.S., executives in other major countries," according to a recent analysis by The Conference Board.

Roard analysts pointed out that it is customary for companies to pay special living cost allowances to their foreign-based executives "to help them to maintain their customary living standards while serving abroad." It is these living cost allowances that have dropped sharply in nearly all major cities covered by the analysis.

The board gave examples: For executives earning $60,000 a year in New York, living cost allowances for 1985 are running only $4,909 a year in Geneva, down from $12,536 last year. In Rome, allowances are now running at $334, down from $4,433 last year.

It was noted that even in high-cost Tokyo, living cost allowances for U.S. managers have declined to $15,920, down from $21,759 last year.

The soaring dollar has eliminated all living cost allowances in such cities as Copenhagen, Frankfurt, Stockholm and Sydney.

J. Frank Gaston, the board's director of Special International Studies, said, "The dollar's effect even outweighs the generally faster price inflation prevailing abroad."

Mr. Gaston added that the recent general weakening of the dollar "has not significantly altered the trends reported in most countries."

So, if a manager is yearning to work in overseas operations of his company, he can at least tell his boss it would cost the company only a little extra in living cost allowances. It just might help his chances.

It is true, however, that there has been a general weakening of the dollar since February of this year. Still, Mr. Gaston noted that, "it has not significantly altered the trends reported in most countries."

Directors see shift in critical issues

There is a shift going on in just what corporate directors think are the most important issues to them. This is shown in the recent 12th annual directors study made by industrial relations consultants at Korn/Ferry International.

The results, published recently by the accounting firm, Deloitte Haskins + Sells, covered 600 of the 1,000 largest U.S. corporations.

As seen in the box here, directors now rank financial results as having No. 1 importance to them. However, looking ahead five years, the directors ranked strategic planning in first place. This represents a big shift from the 'spreadsheet management' approach that has been so prominent in U.S. corporations.

Strategic management is set for new prominence in the future. As noted, it will rank No. 1 some five years from now. This shift may reflect the great deal of restructuring now going on in U.S. business. The restructuring encompasses almost all areas of corporate strategy.

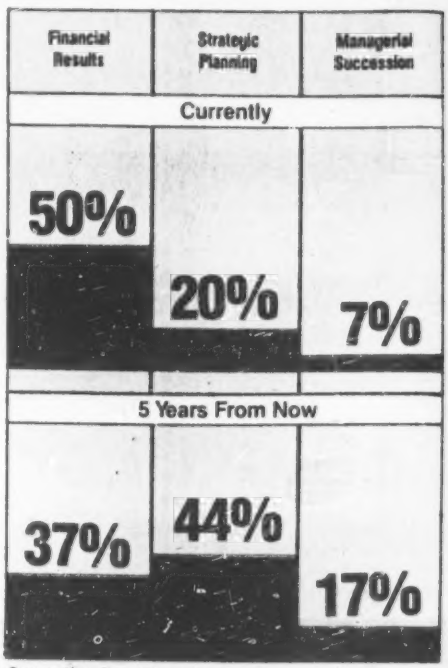
Lastly, the issue of managerial succession, as noted in the box, will be gaining in importance. This again, may well reflect restructuring where corporate organization pyramids are flattened. Critical to this streamlining is getting the 'right' managers in the 'right' slots. Succession management becomes critical.

Notably, in the study it was shown that corporate directors did not give high ranking to merger and acquisition activity.

The high-valued U.S. dollar is making it less costly for companies to employ American managers overseas. This may mean more overseas jobs.

How Directors Rank Corporate Issues

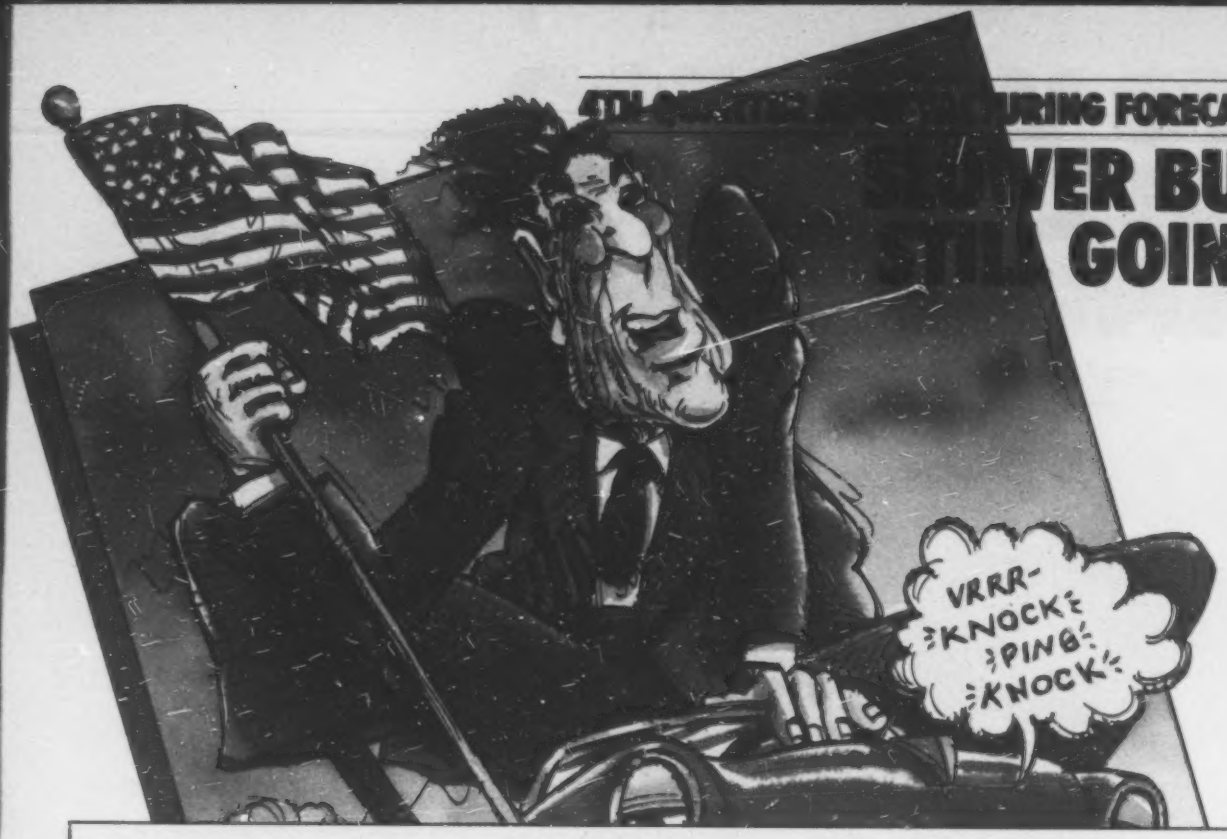
(Pct Per No. 1 in Importance)



Source: Korn/Ferry International

BY JOHN BAXTER

4TH QUARTER MANUFACTURING FORECAST: ...VER BUT ...GOING



Business in the closing quarter should hold up fairly well. The period is already launched, and there seems to be sufficient forward roll in the economy to assure continued growth through year's end.

There's a good likelihood that the fourth quarter might turn out to be the best quarter of the year. But that is not saying much. The first two quarters of the year were clunkers. Gross National Product, in real terms, in those quarters grew at annual rates of 0.3 pct and 2.0 pct, respectively. Many forecasters see third quarter growth at about 2.2 pct when the final count by the government is known.

Further, many forecasters see the growth rate in the final period at about the third quarter rate, or a shade better.

Iron Age's projections put it in the camp with these many forecasters.

These forecasts of the economy, and prospects for business, don't paint a bright and cheery picture. The picture *should* be bright and cheery. After all, U.S. consumers have been spending money at a good clip, businesses have stepped up their investments and government purchases of goods and services have rolled on at a sturdy growth rate.

In the second quarter this year, the most recent period of complete data, consumer spending grew by 5.3 pct at a real annual rate. Business investment grew by about 12 pct and government purchases by almost 4 pct.

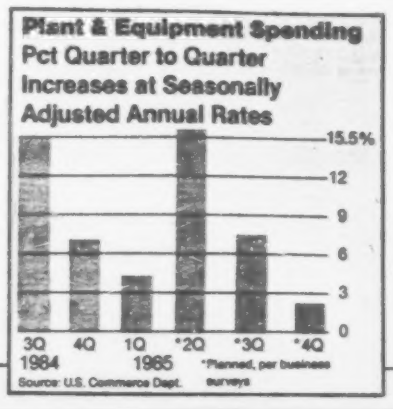
All this spending growth was not a one-quarter phenomenon. Over four quarters through the June period, these rates of growth averaged 3.7 pct, 8.1 pct and 3.8 pct, respectively.

Where's the Payoff?

These are solid growth rates. Not spectacular by any means, but solid. Certainly, spending like that in the past stirred up high levels of activity in plants, fattened corporate earnings and led to big gains in employment.

But these payoffs haven't come this time around on the recovery carousel.

Over the most recent four-quarter time span, output and operating rates of U.S. factories were on a



near-treadmill. In the June quarter this year, U.S. industry output was ahead of the year-ago rate by a scant 1.4 pct. The plant capacity usage rate in manufacturing plants was actually down by 1.6 pct.

Corporate profits? They have not responded at all to growth of outlays in the economy. In fact, through the June quarter this year, corporate earnings were trapped on a 5-quarter straight-down slide.

Factory employment? In August, factory employment was down by more than 150,000 from the year-ago level.

The failure of recent spending growth to ignite key sectors of the economy is no mystery to those U.S. industries which have been like tenpins facing the imports bowling ball.

"Imports have skimmed off the cream," explained one trade expert.

Recently, analysts at the National Assn. of Manufacturers (NAM), claimed that the biggest single reason for the slowdown in the economy was the huge gap in U.S. foreign trade. These experts stated that if this country had done better in world markets, the nation's growth rate since mid-1984 would be 4.9 pct instead of the actual 2.2 pct.

Is It Too Late?

U.S. manufacturers have fought back against imports in a number of ways ranging from Washington lobby efforts for protection to restructuring of their operations. Ironically, now that they are becoming tougher world-class competitors, key domestic spending sources seem to be running out of money.

The consumer, who accounts for two out of every three dollars spent in the economy, is now running on the ragged edge. His total debt, already at an record level, is swelling at a rate twice that of his income. And he is putting less of his income into savings than ever in U.S. postwar history.

Recent huge borrowing by consumers has pushed their total financial liabilities to record highs also. These liabilities, which include installment credit as well as mortgages, bank loans and other borrowing, reached 72 pct of personal income in the first quarter. And they continue to rise.

The consumer might not be so bad off if he was at least salting away a bit more of his income than in the past. However, in the first quarter, personal savings, as a percent of disposable income, ran at a 4.5 pct annual rate. That was the lowest rate in the entire postwar 1950-85 period. (The savings rate was up slightly in the June quarter).

Business Hurts, Too

Consumers then are strapped financially. And so are corporations.

Corporate net income has been falling at the same time corporate debt has been rising. After three years of recovery, corporate profits have not even returned to pre-recession levels.

Running along with the profit fall, the corporate debt-to-equity ratio of U.S. corporations has leaped ahead at a record pace. As the year opened, this ratio had soared at a record rate for any 12-month span—to 81.4 pct from 73 pct. That increase was as large as the total rise over the previous 16 years.

The other spending sector of the economy, the government, is, of course, also strapped financially. In Washington, budget deficit consciousness is overwhelming.

So, from where will come the spending that is needed to keep the current business expansion cycle on track? Consumers, corporations and the government all face severe financial problems, according to many economists using the noted traditional measures of financial health.

A Second Look

However, it may well be that the foreboding and well-publicized data may be making things look worse than they are at this time.

Take GNP data. Sure, GNP grew by only 2 pct at an annual rate in the June quarter. But real final sales (GNP less change in business inventories) grew by 4.7 pct. That, of course, is a solid growth rate.

It is a weakness of the way GNP data is structured that decreases in inventory buildup are counted as lessening GNP growth. In reality, a small stock buildup is an economic indicator of better days ahead. It is excess stockpiling that almost invariably leads to recessions. Thus, it is hard to see how the economy is about to flash 'tilt' when final sales are expanding.

And, is the consumer really reeling? Well, the latest major quarterly surveys of consumer attitudes (The Conference Board and University of Michigan) found buying plans continuing at a high level. Consumers, it was found, are reacting very favorably to cooled price inflation and tempered interest rates.

Also, it has been found that consumers have dared to borrow and spend more because the assets they hold have continued to rise in value. These include homes, stocks and bonds. "Even if the increased assets are only on paper," said one economist, "it tends to put the consumer in the right frame of mind to give into buying impulses."

As for the decline in corporate profits, that is never good news. However, corporate cash flow has continued to grow. And it is cash flow—retained earnings and depreciation setasides—that is the prime source of business capital investment funds. The year-to-year *decline* in profits through the June quarter was 9.1 pct; cash flow *grew* by almost 6 pct.

This probing the 'other side' of today's complex data reveals there is a continuing growth thrust in the economy. And the cream-skimmer—imports—may have peaked. After all, the dollar has been weakening since February. Too, economic growth rates of U.S. world trade partners are moving up closer to those in this country. This should take some steam out of imports as foreign manufacturers go after improved markets in their own countries.

Still, the mixed bag look of the recovery will likely continue. This is already apparent in recent record auto sales being scored even as other industries lagged. □

STEEL

With a little more volume, domestic mills could earn some money.

Steel Shipments
In Millions of Tons

Source: AISI
*IA astimate

Salomon Brothers Inc. is bullish on the steel industry.

In a dope sheet dated August 20, the investment firm recommended buying the stock of U.S. Steel, Bethlehem Steel and Inland Steel Corps.

Cited in this connection were the cost cuts of recent years: U. S. Steel lowered its labor content from 10 manhours a ton to 4 manhours a ton; the whole domestic industry was down to 6 manhours a ton.

The voluntary restraint program should start bringing steel imports down, said Salomon Brothers. From 27 pct in the first nine months of the program, said the study, the foreign share of the American steel market will drop to 18 pct in the second half of 1985.

Domestic mills were seen benefitting from the trade and cost factors. "We believe that steel companies' earnings will improve significantly in the second half over the year-earlier period," said Salomon Brothers, "and we anticipate that fourth quarter results will be the strongest of the past few years."

There is, indeed, the potential for dramatic swing in steel profits. With a little more volume, domestic mills could earn some money. And for the first time since the restraint program began, imports have taken a sharp dip. The 1.5 million tons reported for July was down from 2.3 million tons imported in June.

Alas, the encouraging import statistics haven't yet translated into more business for domestic mills. In its study, Salomon Brothers projected steel shipments of 19 million tons in the third quarter and 20 millions tons in the fourth quarter. These numbers were in line with the consensus forecast.

In early September, the market was lagging the forecast. Domestic mills shipped only 5.7 million tons in July, and no pickup was indicated by orders for subsequent months. Shipping estimates were being revised downward to 17.5 million tons in the third quarter and to 18 million tons in the fourth quarter.

For the full year, the revisions represented the difference between the 75 million tons originally predicted and the 72 million or 73 million tons now expected. That doesn't seem much of a change, but the tons deducted are critical from a profit standpoint.

The sensitivity of steel earnings to volume was brought out when shipments rose from 18 million tons in the first quarter to 19 million tons in the second quarter. The number of major mills reporting profits jumped from 9 in the first quarter to 15 in the second quarter.

At today's prices, the industry's break-even point is somewhere around 18 million tons. The way it looked in late summer, the third quarter would be below the profit level and the fourth quarter would be just about there.

This picture could change. With lead times short, there could be a strong fourth quarter surge with no advance warning. There were, moreover, grounds for believing the July import slide was the start of a sustained downturn. Voluntary restraint agreements have been signed with 14 nations. If foreign countries are to comply with the agreements, they will have to compensate now for overages in the early portion of the quota term.

A case could be made for impending prosperity, but after four years of devastation and disappointment, no one in the domestic industry was counting on a sudden boom.

One consolation, possibly, was that steel companies will probably go into next year's labor negotiations in a financial state that should make for wage restraint.

NONFERROUS

Nonferrous metal suppliers expect a modest recovery in prices in the fourth quarter.

Nonferrous metals producers are looking for a fourth quarter pickup to round off another so-so recovery year. Industrial consumption slipped seasonally in the third quarter but began picking up after the Labor Day weekend.

Metal prices were nothing to shout about during the third quarter, but suppliers generally expect modest recovery in the final months of the year. With plenty of metal around, there isn't likely to be anything like a shift to a seller's market, but there have been attempts to keep inventories in hand and this has led to expectations of some payoff as demand picks up again.

The copper producers, who have been waiting a long time for favorable market fundamentals to assert themselves, are pricing metal a few cents a lb better than they were at the same time last year.

Barring a surge in producers' stocks beyond the midyear increase, copper prices should do a bit better in the fourth quarter.

One plus for the domestic copper companies this year has been the decline in imports of refined copper, particularly from Canada and Chile. Production rates worldwide still affect prices via the hedge markets in London and New York, but fewer imports leave U.S. companies with more of a share of the home market.

The aluminum producers still were waiting for the payoff on months of production cutting as the third quarter wound down. The spot aluminum price on the London Metal Exchange was slipping back to a weak 45¢ a lb in post-Labor Day trading. Traders were pinning the decline on expectations that current and future power incentive contracts would limit inclinations to curb output much further in the U.S.

As has been the case with copper, the import pressure on the U.S. aluminum industry has abated this year. In the first half, ingot imports were down 12.4 pct from the same 1984 period. On the other hand, imports of mill products, which bit off a sizable piece of the domestic market last year, were down minimally in the first half of 1985. It was a different story in the export column, with mill products down 14 pct and ingot exports up better than 89 pct. Exports of scrap were nearly double.

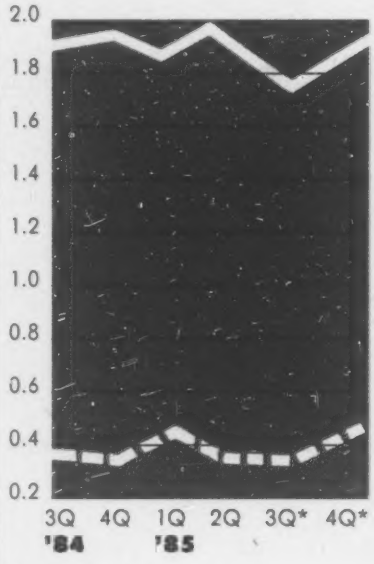
Industry shipments through the first half were down 3.8 pct. Industry bookings, on the other hand, continued firm and managed to pick up the tempo a bit during the third quarter as well. Orders for sheet items (except can stock) were significantly higher after midyear and orders for extruded products also were up while ingot bookings slipped. The U.S. aluminum industry managed to pare its total inventory by 6.8 pct in the first half and it came into the third quarter with primary aluminum production running 16.4 pct under the year-earlier rate.

There wasn't any post/Labor Day pickup for nickel. The London Metal Exchange spot price moved below $2.10 a lb for the first time since late July 1984 after having been close to $2.60 a lb during the spring. Price strength early in 1985 reflected good consumer demand, the decline in producers' stocks and, according to some sources, producer trading on the London exchange during the second quarter.

Nickel users, meanwhile, continued to fill requirements on a hand-to-mouth basis and were pressing their suppliers for concessions.

The zinc smelters racked up a 27 pct gain in shipments by midsummer. Production shutdowns helped keep the domestic portion of supply in hand and the smelters' inventories going into August were down sharply from end-1984 levels.

Nonferrous Metals Shipments
In Millions of Short Tons

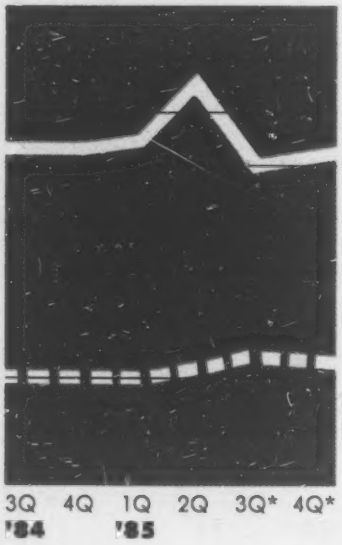


Source: American Bureau of Metal Statistics, Aluminum Assn.
*IA estimate

AUTOMOTIVE

The automakers expect consumer confidence to remain steady in the fourth quarter.

Automotive Sales
In Millions of Units



Source: Motor Vehicle Manufacturers Assn.
*IA estimate

U.S. automakers likely will sell 1.9 million cars in the fourth quarter, an increase of 100,000 units over the 1.8 million sold in the third quarter. Sales of imported cars reached a record of 800,000 in the third quarter but will drop off slightly to 700,000 in the fourth quarter. That's mainly because the Japanese are running into the 2.3-million-unit year-long limit of the current voluntary restraint, which expires next March 31.

Total domestic-car sales in 1985 likely will end up at 8 million units, down slightly from 1984's 8.1 million sales. The greater volume of Japanese imports this year will push up import sales for 1985 to 2.8 million units, an increase of 400,000 units over the 2.4 million imported vehicles sold in 1984.

For consumers, this is an excellent time to buy a car. Domestic automakers began low-interest financing in August and likely will continue such discounts through much of the fourth quarter—though perhaps not at the record-low 7.7 and 7.5 pct rates offered by the Big Four in August and September.

Even Nissan has joined the discount-financing rates in some states. Automakers are offering the deals because of increased competition from the greater number of Japanese cars; and because of the slowing economy.

Automakers plan to build 2 million cars in the fourth quarter, an increase of 200,000 units over the third quarter's 1.8 million-unit production.

If Detroit sells only 1.9 million units in the fourth quarter, that will mean a glut of cars in the dealer lots. That will heighten competition.

Auto executives expect the prime interest rate to hold steady at 9.5 pct through the fourth quarter. Gasoline prices will remain stable. One automaker expects inflation to speed slightly, with the increase in the consumer price index accelerating from 2.3 pct in this year's first quarter to 4.5 pct in the fourth.

Given these fairly stable conditions, automakers expect consumer confidence to remain steady in the fourth quarter.

The latest report of the University of Michigan Institute for Social Research gives an optimistic picture of consumer confidence. Consumers expect slow but sustained and stable growth in the economy, said Richard Curtin, director of the institute's Survey of Consumer Attitudes.

A record number of consumers, said the survey, have favorable attitudes toward buying a car: 67 pct, slightly above the 65 pct of the second quarter 1983. Interest rates are the single most important factor in consumers' decision when to buy.

"Consumer confidence remains high after more than two years," said the survey, "the longest sustained period since the 1960s—and without the earlier 'boom-and-bust' psychology."

On the other hand, consumers already have extended themselves in their spending: Consumer debt is approaching the 1979 peak. And growth in real disposable income slowed from the 6.7 pct increase from 1983 to 1984 to 3.1 pct from 1984 to 1985. The growth from this year to next is expected to slow even more, to 2.4 pct.

"The market is getting softer," said one auto analyst. His company predicts 7.2 million domestic and 3.1 million import sales in 1986: a drop from 1985 of 800,000 units for the domestics and a gain of 700,000 units for the imports. Other automakers are more optimistic, forecasting that sales from 1985 to 1986 will drop off just slightly or even remain flat.

MACHINE TOOLS; FLUID POWER

MACHINE TOOLS—By the end of the third quarter of 1985, the outlook for the U.S. machine tool builders was cautious—cautious because machine tool orders only held steady during the first six months of 1985, rising less than 1 pct over the same period in 1984.

Total orders reported by the member companies of the National Machine Tool Builders' Association for the first six months were $1.4 billion. Metal forming orders fell 19 pct, to $365.2 million, while metal cutting machine orders were up 10 pct over 1984, to $1 billion.

July orders for new machine tools were about $200 million, down 14.6 pct from June and 35.9 pct from July 1984. Metal cutting machine orders were $151 million, down 17.4 pct from June. Metal forming orders were $50 million, down 4.5 pct from June.

Sales by distributors of new machine tools rose in July, according to the American Machine Tool Distributors' Association (AMTDA). Its index measures machine tool consumption and reflects demand for domestic and foreign machine tools.

The AMTDA 12-month moving average has been flat throughout 1985, with sales dipping during April, May and June, then rising in July.

Both associations expressed concern for the uncertainty induced by the proposed changes in the tax code and the future of the investment tax credit.

There is also on-going concern over the adverse effects that the Federal deficit has regarding major capital investment decisions.

All of this is negatively impacting on the U.S. machine tool industry, prompting some to view the remaining quarter of 1985 as one of cautious pessimism for sales of machine tools made in the U.S.

FLUID POWER—Forecasts for fluid power equipment orders in the fourth quarter—usually the industry's slow period—are even more cautious this year.

The second half of any year tends to be a slower period for this industry than the first six months. But fluid power sales seemed to hit a stumbling block in first quarter. The second quarter turned out to be less than expected. And as a consequence, the second half decline begins from a lower base.

Part of the decline stems from imports, which have trimmed a lot of potential from what had been a rising—or at worst, flattening—market in the second quarter.

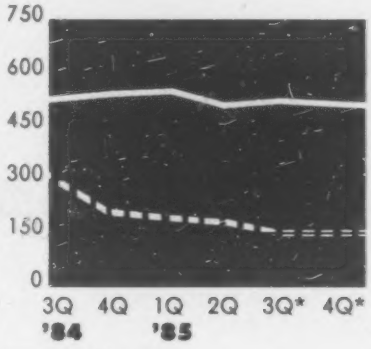
Veteran observers warn that this problem is growing. More fluid power products are entering the U.S. as components in finished goods. Offshore fluid power producers are boosting their sales-service offices here to service these machines. The combination gives them a good base to go after more business in the domestic OEM markets.

National Fluid Power Association members reported a 3 pct decline in new orders in the second quarter, enough to take the expected $1.5 billion new order rate down to about $1.45 billion. Hydraulic orders slipped 6 pct from first quarter seasonal levels and offset a slightly better than average performance by the pneumatic producers.

Some industry members believe their second half orders could move sideways, rather than down. But more say the slippage will continue, even if at a slow rate. Past history is on their side. In the economic recovery that began in 1983, fluid power builders broke that pattern, scored a solid fourth quarter gain. But producers now say the 1986 outlook is cloudy enough to make that kind of movement unlikely.

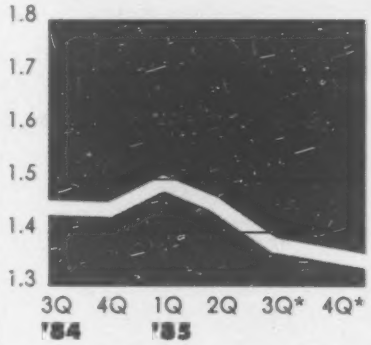
Some to view the remaining quarter as one of cautious pessimism for machine tools.

Machine Tools
Net New Orders
In Millions of Dollars



Source: National Machine Tool Builders Assn.
*IA estimate

Fluid Power, Shipments
In Billions of Dollars

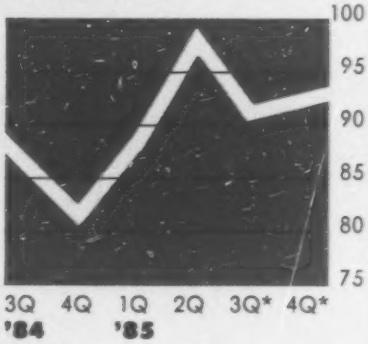


Source: U.S. Department of Commerce and NFPA
*IA estimate

COATINGS; PLASTICS

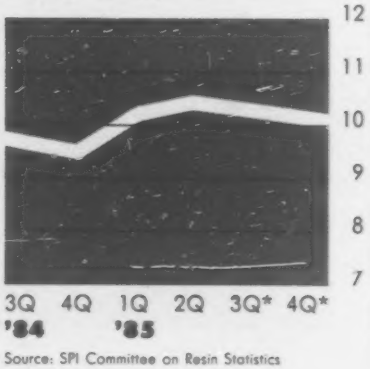
One key reason for the strength in industrial coatings is the production schedules of the automakers.

Industrial Coatings Shipments
In Millions of Gallons



Source: U.S. Department of Commerce
*IA estimate

Plastic Resins Sales & Captive Use
In Billions of Lbs



Source: SPI Committee on Resin Statistics as compiled by Ernest & Whinney
*IA estimate

COATINGS—Industrial coaters likely will ship 93 million gallons of product in the fourth quarter. That's a slight increase from the 91 million gallons estimated for the third quarter this year—but a big jump from the 81 million gallons shipped in last year's fourth quarter.

One key reason for the strength in industrial coatings is the production schedules of the automakers. Detroit will build 2.0 million vehicles in the fourth quarter, an increase of 200,000 over the third quarter's 1.8 million vehicles. The OEM auto market is the coaters' largest single market. Truck production has increased by 15 pct in 1985 over 1984.

Other bright spots for the coaters are coil coatings and metal buildings.

"The market for coil is stronger than ever in the third quarter and should continue that way in the fourth quarter," said an executive at one coatings company. "Metal buildings are proving a strong market for coil coatings and should pick up further in the fourth quarter."

The markets in the furniture, farm-equipment, and off-road industries have been weak for much of this year. They could pick up somewhat in the fourth quarter.

The number of gallons shipped is decreasing as (1) coaters use higher-solid products; (2) more of the coating adheres to the surface of the end-users' products; and (3) coaters ship more powder coatings, which are extruded dry onto the end-users' products.

On the other hand, automakers rapidly are changing their paint systems to base coat/clear coat technologies—which increase the number of gallons per vehicle. Chrysler has converted all its plants to the new technology; GM and Ford, about half their plants.

PLASTICS—If orders keep coming in as they have during the first half of 1985, the plastics industry will finally crack the 40 billion lb barrier. At mid-point, sales had reached 20.6 billion lbs, compared to 19.8 billion lbs at the same time last year.

The second quarter got off to a good start with a 3.5 pct increase over the first quarter.

Not all the figures were in, but it is estimated that plastics sales in the third quarter dropped a slight 1.7 pct and it is likely that sales could slip an additional 2.9 pct in the fourth quarter.

Then, there are the plastics, the ones which are out to replace metals. These include certain thermoplastics and thermosets.

The most notable drop here is with epoxy resins, which are down 6 pct from last year. The use of epoxies in composites for the aerospace industry is going along very well, but the materials took an overall nose-dive due to the unexpected downturn in electronics.

The claim is made that only about 3 pct of the volume or 5 pct of the dollars in plastics goes toward the metal-replacing materials. The strong ones, in terms of engineering resins, are polycarbonate, thermoplastic polyester and nylon.

According to the statistics available from the Society of the Plastics Industry, nylons are up 2.2 pct over last year and thermoplastic polyesters are up a whopping 14.1 pct.

The latter figure is misleading, however, because it includes bottle sales.

In general, engineering plastics are doing well because of the strength in automotive, while the epoxies have been hit hard by the collapse of the personal computer market plus the considerable amount of out-sourcing by the domestic electronics manufacturers.

COMPUTERS; INSTRUMENTS & CONTROLS

COMPUTERS—The computer industry, if not in a slump, is experiencing what could charitably be called a pause.

This pause has carried through most of 1985 and resulted in dozens of firms announcing layoffs. Industry growth has slid from 20 pct in 1984 to less than half that amount. Much of that slippage can be traced to a fall-off in demand for personal workstations.

Final third quarter figures are not yet available, but there is optimism that they will be up. The fourth quarter should show even greater improvement.

For the most part, this pause will be temporary. Right now, companies, faced with eroding profits, are pausing to reassess their computer needs. Many are discovering that their most pressing needs are not more computers but computers that work more closely together. In particular, firms are looking for the ability to network computers; that is, allow various computers to share information among themselves.

Firms are also waiting for a new generation of computers that will give them more for their money. Some of these new computers, like the IBM PC AT are available but in short supply. Others, like IBM's new Sierra series mainframes are not yet available; while still others exist only as rumors, like the mythical IBM PC2.

Tight budgets and disinterest in current technology are temporary obstacles to growth, but the overabundance of computer equipment suppliers and the rapid growth of the foreign content in computers will have more lasting effects on the industry. A deluge of semiconductors (computer chips), for example, both from U.S. companies and abroad has resulted in layoffs by U.S. semiconductor manufacturers.

INSTRUMENTS & CONTROLS—Third quarter sales of instruments and controls were estimated to be at a lower level than predicted earlier in the year, following a flat trend experienced by some industries during the third quarter.

The outlook for the fourth quarter and first half of 1986 is for more of the same. There are no big projects to give added impetus to sales and few incentives that would get large firms to introduce major plant-wide modernization programs.

One tipoff of the competitive morass the industry finds itself in is the higher level of interest that large suppliers of instruments and controls have shown in the lower end of the business. Firms are searching for larger shares of a market that is not expanding at this time.

Another indicator of how the industry is faring at this time is plant utilization. One marketing expert said that until production increases to the point where the factory utilization rate achieves 90 pct or better, the market will stay flat.

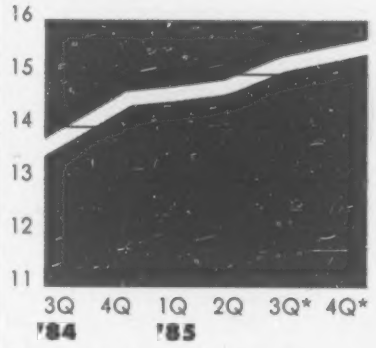
As with most things, the situation is neither black nor white. Metalworking manufacturing is undergoing a major change and is heading toward the unmanned factory of the future. That means increasing needs for greater process control equipment and instrumentation.

The cauldron is beginning to boil after a decade of warming up, so while the utilization factor may be important it could still be disqualified as a predictor of future events and trends. World competition does not necessarily travel in the same cycles. It could force change, particularly in the controls and instrumentation markets.

Despite a predicted annual increase of 13 pct for 1985 over 1984, this market will decline during the fourth quarter.

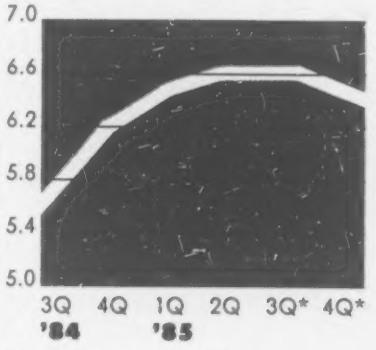
Computer industry growth has slid from 20 pct in 1984 to less than half that amount.

Computers
Shipments
In Billions of Dollars



Source: U.S. Department of Commerce
*IA estimate

Instruments & Controls
Shipments
In Billions of Dollars

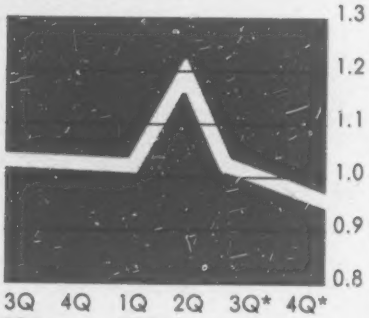


Source: U.S. Department of Commerce
*IA estimate

CONSTRUCTION; FARM EQUIPMENT

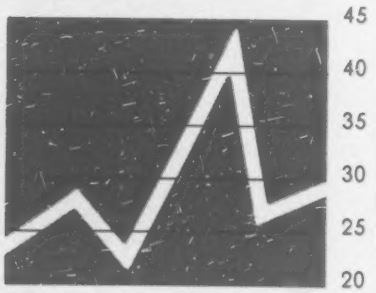
The housing market aided the sales of lighter construction equipment.

Construction Equipment Shipments
In Billions of Dollars



Source: U.S. Department of Commerce
*IA estimate
Note: Figures for 1985 do not reflect Commerce Dept. additions to its list of selected products. IA estimates are projected on previous year's basis.

Farm Equipment Wheeled Tractor Sales
In Thousands of Units



Source: Farm & Industrial Equipment Institute
*IA estimate

CONSTRUCTION—Construction activity held up well in 1985, and construction equipment builders expect to hold those gains for the remainder of 1985.

Seasonal factors will cut into the quarterly performance in both the third and fourth quarters. That is reinforced by some builder opinion that 1986 could see a slowdown.

Caterpillar Tractor Co., the largest U.S. producer, moved into the profit column in the second quarter despite a sales level slightly under the same period of 1984. American Hoist & Derrick also returned to the black and scored a substantial sales gain over the year ago period.

One major equipment maker has expressed a belief that second half sales will continue to show gains, a feeling that's not shared by a number of other industry sources. Equipment dealers, however, have predicted a 10 pct gain for retail sales this year.

Dealers scored a strong sales gain in 1984, which resulted in some over stocking that may have cut into the equipment builders' late 1984 and early 1985 sales. But all now agree that the overage has been whipped into line.

A surge in March sales held through April. During the summer months, however, sales were leveling. Light equipment had posted better sales gains than heavy equipment. Also, highway construction equipment, which had been a pacesetter in last year's recovery, appeared to be no more than holding its own. The housing market aided the lighter equipment sales.

The industry also scored its gains on a substantially reduced manufacturing base. There have been a lot of plant closures since 1982. The domestic industry has also faced an import surge—up 120 pct last year—which has continued to hit prices.

FARM EQUIPMENT—Despite the rebound in the second quarter, farm equipment gets a lot of question marks for the second half.

Retailers—where bankruptcies and sellouts have been rife for two years—sound more hopeful than equipment builders. The dealers point to record crops in important crops like corn, and a cleanout of dealer inventories that carried through the third quarter. Supplies of used equipment also have been reduced.

But the farm machine producers aren't as bright-eyed. Their reasons:

—The strong second quarter tractor sales were concentrated in the lower horsepower tractors where imports take a bigger bite of the U.S. market, and

—Heavy equipment sales had to be helped along by another wave of price cuts.

Deere & Co., the biggest U.S. equipment builder, reported a $39.5 million loss on manufacturing and marketing operations during its third fiscal quarter (ending July 31). Its production was down 7 pct.

Across the border, Massey Ferguson showed some of the second quarter gains, but has continued to reduce inventories.

Specialty farming, or light construction equipment, was the bright area in the first half and accounted for the gains in the under-100 hp tractors. Big ticket items like combines (off 30 pct in the first half), and four-wheel-drive tractors (off 44.3 pct) didn't share in the second quarter recovery. Some other implements picked up briefly, then fell back again.

It's possible that concern over declining tax benefits next year could pep up late fourth quarter equipment sales. But if that's true, equipment producers aren't raising their output on that hope.

APPLIANCES; MATERIAL HANDLING

APPLIANCES—Industry analysts are predicting a mild decline in appliance shipments during the last quarter of 1985, despite the fact that the industry has established two industry records: It shipped more than 11.5 million units in the second quarter and more than 21.7 million units in the first half.

According to the Association of Home Appliance Manufacturers, second quarter shipments were 8.2 pct higher than the comparable 1984 period and year-to-date shipments were up 7.2 pct over a like period in 1984.

Industry analysts have been predicting that 40.4 million units will be bought during 1985, which would be 1 million units higher than the record set in 1984. They predict a 41.6 million unit year.

Monthly shipments of microwave ovens, refrigerators, automatic washers, and disposers were the highest ever for June. Dishwashers, dryers, electric ranges, and freezers were at the second highest level ever for June.

Contributing to the strong sales of appliances is the continuing replacement demand and new residential construction, which has been on an upward trend for the past two and one-half years. Consumer confidence remains high with rising incomes, stable employment, and low inflation. Rising consumer debt is causing many to pause in extrapolating midyear enthusiasm to last-quarter sales.

Room air cleaners may be the next appliance to gain strong marketing support. The AHAM announced that certification seals, which identify for the consumer the clean air delivery rates for dust, pollen and tobacco smoke particles, began appearing on room air cleaners in August. Ten companies are participating in the program.

MATERIAL HANDLING—An upbeat note, echoing through the material handling industry at the end of the first half, seems destined to last through the rest of 1985 and into the first half of 1986.

"The last quarter of 1985 promises to be the best quarter of this year," said one material handling executive, typifying industry optimism. Still, he confessed that up to this point in 1985 his business had been flatter. Some sizable proposals in August could jack up his company's sales by 20 pct in the second half compared to the first.

Likewise, another industry executive foresees a 12 to 14 pct orders rise for the rest of this year, but he expressed concern about next year's prospects, in the wake of U.S. Commerce Dept. reports about a downward revision in 1986 capital expenditures. A sluggish 1986 does not bode well for material handling equipment sales, which are dependent on long-term industrial growth.

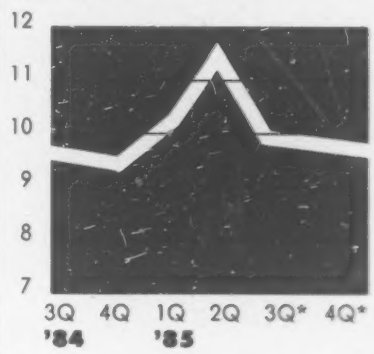
The latest report from the Material Handling Institute showed both bookings and shipments "approaching the previous high levels of 1981." Cumulative bookings for 1985 rose more than 20 pct compared to 1984, while shipments increased some 15.3 pct.

Where's the most momentum? The auto and defense industries reportedly are the most active markets, as well as the food and beverage industries. And, thanks to the weaker dollar, some larger AS/R systems (automatic storage/retrieval) manufacturers have gotten more foreign orders.

Despite all this ebullience, this industry continues to have its darker side. Smaller companies are continuing to feel the pinch from skimpier profit margins and Japanese imports continue to batter domestic lift truck makers.

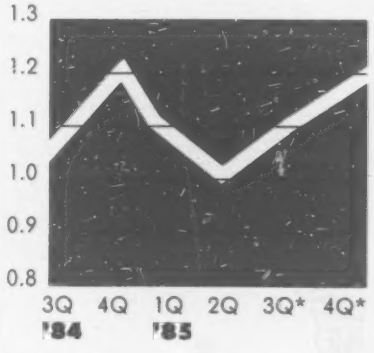
Year-to-date shipments of appliances are up 7.2 pct over the same period in 1984.

Appliances, Shipments
In Millions of Units



Source: Assn. of Home Appliance Manufacturers
*IA estimate

Material Handling Shipments
In Billions of Dollars

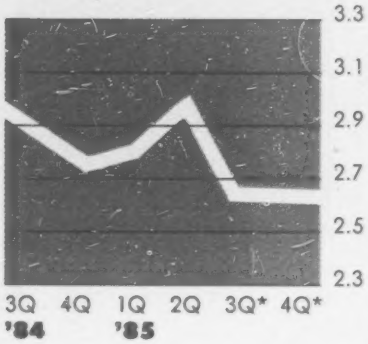


Source: Material Handling Institute
*IA estimate

CASTINGS; FORGINGS

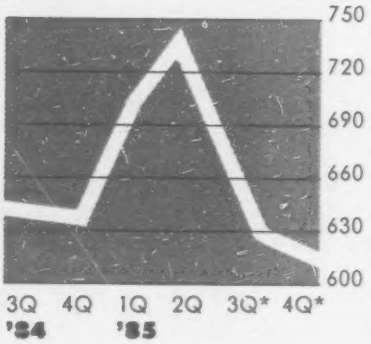
Defense and construction continue to be solid markets for castings.

Ferrous Castings Shipments
In Millions of Tons



Source: U.S. Department of Commerce
*IA estimate

Impression Die Forgings Shipments
In Billions of Dollars



Source: U.S. Department of Commerce
*IA estimate

CASTINGS—The foundry industry is cautious about the fourth quarter. Auto has held up well and construction has helped, but the truck castings demand began to fade in the second quarter of this year.

With continued low production in farm equipment and construction machinery markets (even though construction machinery has been up this year), and some of the capital goods machinery markets showing a slow recovery pace, forecasts have been cautious. And long-range viewers are even more careful when they look at prospects for 1986.

What could have been a continued recovery this year has been hurt by imports, which have been hitting margins for foundrymen.

Despite concern over imports and unhappiness over castings prices, there are new equipment programs at several foundries who are building for the long haul and to meet import competition.

Defense and construction continue to be solid markets, both in ferrous and non-ferrous castings demand. But other markets aren't showing the strength of 1984.

At least through the first half of 1985, steel castings volume and ductile castings volume were steady workhorses. Gray iron and malleable showed a strong surge coming into 1985, but seemed to be a lot more volatile as the year advanced. That may account for some of the caution about the outlook for the closing months of 1985. Gray iron is still the hands-down volume leader in the ferrous foundry market, with tonnages per month about triple that of ductile iron shipments.

One explanation for the gains in July, usually ranked with December as the industry's slowest month, is that just-in-time delivery requirements have thrown some August business back into July.

FORGINGS—Forging shipments through the third quarter are running neck and neck with last year's totals, but forging sales overall continue to drift downward.

Midway through the third quarter sales were reported down 20 pct from a year ago, and 1984 was no banner year. There is little evidence that sales will pick up in the fourth quarter. One industry member believes orders for the final months of 1985 "will be flat at best."

The now-waning economic recovery seems to have bypassed the forging industry. Most of the industries that in the past were heavy buyers of forgings remain depressed—commercial aircraft, farm equipment, construction equipment, and oil field goods, for example.

The one bright spot for forging companies has been the strong demand from the automobile companies, and even this market may not last much longer. Auto sales, predicted to be strong through the fourth quarter, are expected to sag next year as consumer spending tails off. According to one analyst, car sales could be down as much as 10 pct in 1986.

The biggest forging purchaser, the aerospace industry, has been depressed and is not expected to pick up next year. However, companies supplying forgings under military contracts have not complained about a lack of business. But how the military will spend in 1986 is difficult to predict.

What makes the forging picture even more gloomy is the suspected growth of imports into the U.S. A major study is now looking at the extent of foreign forging infiltration. That study will be completed perhaps by mid-1986. But preliminary indications are that some 50 pct of forgings now purchased in this country are coming from overseas.

AIRCRAFT; ENGINES & TURBINES

AIRCRAFT—The strong recovery in the aircraft industry firmly established itself in the middle of the year, and there is every indication that the fourth quarter will begin and end on a similar, positive note.

The strong performance in this sector is being carried by a number of factors. Airline traffic has been growing steadily and passenger loads are increasing. Worldwide airline traffic has increased between 8 and 9 pct throughout 1985. This pattern should continue, and possibly improve, in the fourth quarter.

U.S. travel has been particularly strong, with growth rates of about 12 pct. This growth has absorbed most of the excess capacity that plagued the commercial jet market during the past few years. World airline profits, which evaporated between 1980 and 1983, reached $1 billion in 1984 and are expected to match that figure this year.

This has set the stage for many airlines to begin placing large orders for new technology replacement aircraft, making the short-term outlook favorable though competitive. For example, Airbus Industrie, the European manufacturing consortium, midway through the third quarter matched its firm order total for all of 1984. Significantly, 40 pct of the orders received this year have been for the A-320, a new airplane that will not be certified or delivered until much later in the decade.

Boeing is reporting demand that is running slightly ahead of last year for such popular mid-range aircraft as the 737. Similarly, Douglas Aircraft has been selling primarily MD-80 airplanes.

Both the small regional carriers as well as the large intercontinental airlines have been placing orders for new planes. The brunt of new orders have been received from overseas carriers.

ENGINES & TURBINES—The engine makers, while demonstrating some improvement from pre-recessionary levels, have been plagued by uncertainties through most of 1985. There is little indication that this trend will reverse itself. The positive trends that asserted themselves earlier in the year likely will lose momentum by year's end.

The automotive sector rebounded strongly for a time. But production rates probably won't be sustained. Domestic automakers have been moved to offer highly competitive financing to entice purchasers. Another major uncertainty is the number of autos Japanese manufacturers will sell in the fourth quarter. The import share of the market likely will grow over last year, dragging down demand for domestic engines.

Similar cautionary soundings have taken root in the construction industry, where a host of new Federal tax revisions and a tightening up of lending practices have caused new construction to drag. Lower interest rates have helped counteract this, but the debate over the Federal deficit has caused further concern. Any rise of interest rates in the fourth quarter would further depress this segment of the industry.

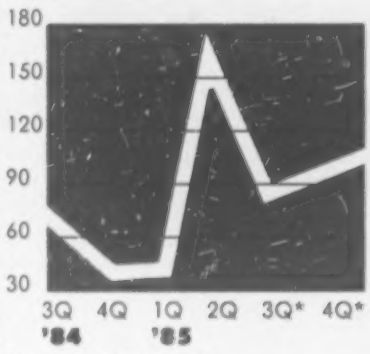
But the major drag in this market is the continuing overcapacity in the consumer electrical power market. There has been less indication this year that utilities are scaling back earlier plans. But overcapacity still exists, and it likely will throughout the fourth quarter. The domestic nuclear industry remains troubled, and manufacturers are increasingly turning to potential overseas markets.

Continuing drops in world oil prices have caused the oil segment to remain quiet. Expensive purchases of diesel engines and power plants have been rare and will likely be forestalled for several months.

Many airlines are beginning to place large orders for new-technology aircraft.

Commercial Airplane Orders

No. of Planes

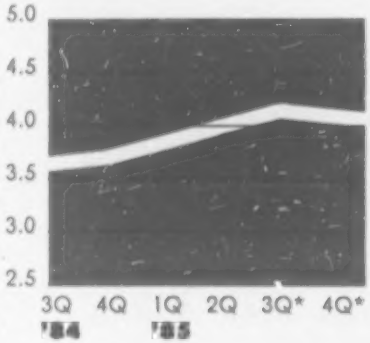


Source: Airbus Industrie, Boeing and McDonnell-Douglas

*IA estimate

Engines and Turbines Shipments

In Billions of Dollars



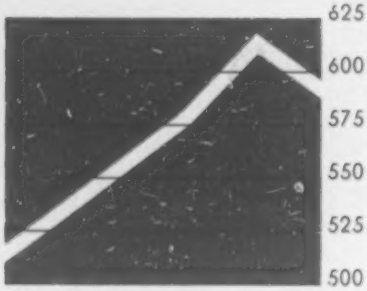
Source: U.S. Department of Commerce

*IA estimate

WELDING; HEAT TREATMENT

Welding distributors' sales are expected to slip in the fourth quarter.

Welding Shipments



Index: 100 = $200 million in distributor sales
Source: National Welding Supply Assn.
*IA estimate

Heat Treatment
In Millions of Dollars

Sales of Commercial Heat Treaters
Heat Processing Equipment Orders
Source: Industrial Heating Equipment Assn., Metal Treating Institute
*IA estimate

WELDING—"The welding economy is sound," said one executive with a welding manufacturer. "We are not enthusiastic over the activity, but we're comfortable with it."

This is a remarkable statement because most of the large user industries that are dependent upon welding are not doing so well. This is particularly true with the larger companies within those industries. One explanation is that many new, small companies have been formed and they are taking up the slack.

The auto industry is fairly strong. Building construction is steady. And, naval shipbuilding is showing strength.

Unfortunately, one of welding's biggest markets, off-highway construction equipment, is but a shadow of its former self. Altogether, there has been marginal improvement, but it would have to be measured in fractions of a percent.

News from the distributor end of the business is much brighter.

Based on statistics compiled by the National Welding Supply Association (NWSA), Philadelphia, business was booming earlier this year. The second quarter rebounded with a 7.5 pct gain over the first quarter. The third quarter saw a 3 pct drop in business.

Bear in mind, however, that the second quarter was the strongest ever since the NWSA began tabulating statistics way back in 1981.

The fourth quarter is expected to slip by another 1.5 pct.

The government, on the other hand, sees welding having another $3 billion year, but that business is running 2.5 pct behind 1984.

Both the government and the NWSA include imports in their figures. Last year, the government said, imports constituted 9 pct of the total welding consumption in this country and could increase in 1985.

HEAT TREATMENT—Bolstered by a solid July, heat treaters are looking to a straight run through both the third and fourth quarters.

The rate of gain can't be sustained, naturally, but it's been pretty good in 1985. There may have been moments of doubt back in the second quarter, when a tremor hit some shop order books, but it should be noted that a few heat-treaters reported strong July bookings. In a couple of cases, the shops in question hit record months.

But when the smoke cleared, it had translated into a pretty good July, confirmed by the Metal Treating Institute when its membership poll indicated a 6 pct gain over the 1984 July period. Talk with a few heat treaters and you'll probably get reports that August was a disappointment. But even these shops are willing to bet they'll have a solid level of activity until December.

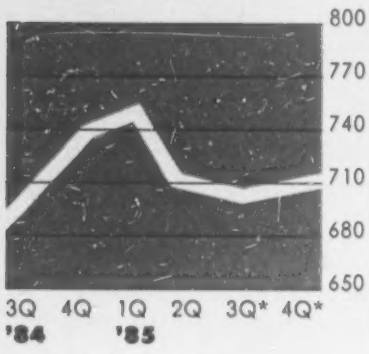
Some are crediting their current strength to new business that has become possible as they boosted their own purchases of industrial heating equipment. Tracking the rising heat treat billings, sales of industrial heating equipment hit an impressive $123.7 million in the first quarter. There's usually some lag between a rise in heat treat billings, and the rise of new equipment purchases by the heat treat shops. But in 1984, equipment came back at a faster rate than the gains in heat treat billings.

The belated arrival of some capital goods heat treat business during the summer was another factor offsetting the continued lag in mobile equipment markets. Defense suppliers say that that has held steadily through much of the two year period. Demand from consumer-related and construction industries was solid through the period, though some areas of the automotive market began to soften in the second quarter.

FASTENERS; GEARS

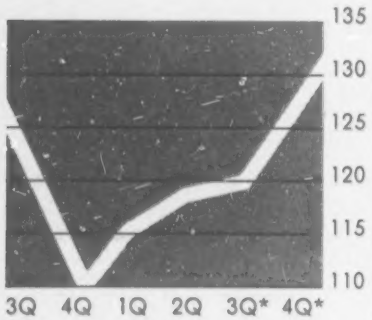
Demand for specialty fasteners has held up well this year.

Fasteners, Sales
In Millions of Dollars



Source: Industrial Fasteners Institute
*IA estimate

Gears Bookings



Based on average monthly bookings, 1977 = 100
Source: American Gear Manufacturers Assn.
*IA estimate

FASTENERS—The first three quarters of 1985 have been tough ones for the producers of standard fasteners because of foreign competition.

Demand for specialty fasteners, on the other hand, has held up well this year. Orders reportedly are ahead of last year pace.

Sales this year started off with a bang, but that fast start has slowed in the second and third quarter. Some pickup should come in the last three months. The second half has seen a cooling in the economy, so fastener manufacturers expect to see business down about 10 pct from first half figures.

The automotive industry, a strong buyer of fasteners this year, should remain strong through the fourth quarter, with auto sales up slightly from the third quarter. Car sales, however, are projected to be off 10 pct next year as consumer spending drops off. This year consumers have borrowed at unprecedented rates, however this borrowing, say economists, cannot be sustained much longer.

Special fastener producers are benefitting this year from military orders. Several producers see this holding up through next year. Orders from commercial aircraft firms, however, have been poor.

Sales through the fourth quarter are expected to continue pretty much at the same volumes of quarter number three, which in turn was much like the second quarter. "I don't see any surprises for the rest of this year," said one manufacturer, "but expect business to drift lower after the new year as the U.S. economy continues to slow."

Next year could be even more depressing for general fastener producers, for foreign products are expected to continue to make major inroads into the U.S. fastener market.

GEARS—Flat as the Kansas farmlands is the way one Midwestern gear executive describes the current quarter, although he's sure he paints a more optimistic picture than some of his colleagues.

"I see a little bit of growth in late 1985 coupled with a bit more in early 1986, then ...who knows?"

Traditionally, the gear business slows down in the second half compared to the first, and this year should be no exception. However, while some gear industry observers in June were looking for fourth quarter sales to rise 6 pct over those of the third quarter, some are revising this downward.

According to the latest American Gear Manufacturers Assn. report, the composite gear bookings index declined 12.5 pct at mid-year with lower bookings registered in six of the eight product groups. But the composite shipments index rose 10.9 pct, an increase of 2.9 pct over the same period a year ago.

One gear official said that demand for big gears is still off, but orders for precision and commercial-type gears should continue to hang in there, buttressed by continuing strength among automotive, aerospace, appliance, computer and paper industry markets.

But lagging demand continues among capital goods markets, such as oil, chemicals and mining, and this will probably carry into the beginning of next year.

Gear business from the farm equipment sector is still dismal, and sales to construction equipment makers is described as "soft."

Gearmakers are still plagued by imports and see no relief in sight. "This is a serious situation for us," said one industry spokesman. Imports are overtaking not only the domestic OEM market, he explained, but the replacement market as well.

SHIPBUILDING; RAIL CARS

SHIPBUILDING—It's that time of a year again when it's difficult to estimate Naval ship production. The question is this: How many ships out of the FY86 budget will be in the yards' fabricating hands before the end of the year?

In this estimate (see chart), the prediction appears to be grim—only 76 ships under construction during the fourth quarter.

If Congress acts in time, however, there's a possibility that construction will start on 23 more before the first of the year; thus, that measly 76 figure could jump to a healthy 99. Our prediction is that it will be closer to 76.

Also in the FY86 budget will be another Trident submarine which will be worth more than $1.2 billion to its builder, General Dynamics Corp. That should keep employment up in the Groton area.

Domestic shipyards are currently working away on a FY85 appropriation of $11.5 billion. The 1986 budget request is for a $11.4 billion package.

In commercial shipbuilding, there doesn't seem to be any new construction to replace those ships that have been launched. Indications for the future are that commercial shipbuilding will not get any better. If anything, it will get worse, to the point where it might even dry up in another year or two.

If there are any rays of hope, it will have to be in drill rig construction, but any substantial recovery there could be many months away.

Summing up, Naval construction was off in the third quarter by close to 10 pct. It could go down by another 7 pct in the fourth quarter, although a 4 pct drop is more realistic. Of course, these percentage figures are based on the number of ships, and one mine sweeper does not equal one nuclear submarine.

RAIL CARS—This is not a good year for rail cars.

Orders in the second quarter dipped about a 13 pct dip from the first quarter. Meanwhile, industry members expect the third quarter will see orders rebound about 6 pct when all the figures are in. The fourth quarter likely will fall back to the level of the second quarter.

One reason for all of this pessimism is inquiries are down. What production there is has been mostly coal cars for the utilities and some inter-modal flat cars for leasing. In good times, the railroads themselves were buyers of coal cars.

Orders for new freight cars in July totaled 1,090, compared with 827 in June and 607 in July a year ago, according to the Association of American Railroads and the American Railway Car Institute. Cumulative orders for the first seven months of this year came to 5,932, compared with 11,046 at the same time a year ago.

Deliveries of new freight cars in July totaled 1,075, compared with 1,077 in June and 1,327 in July 1984. Cumulative deliveries for the first seven months of 1985 totaled 7,018, compared with 6,315 for the same period last year.

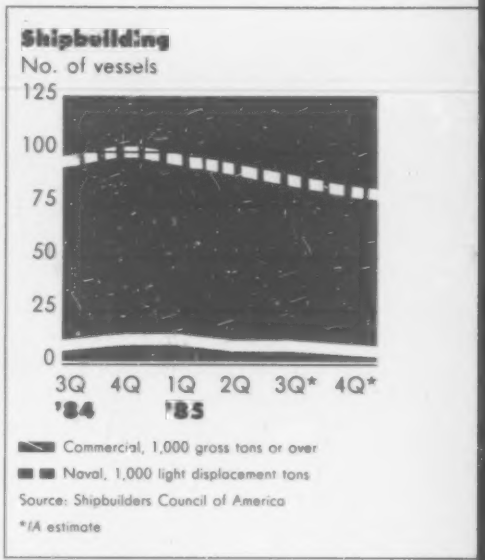
As of August 1, the backlog of cars on order but undelivered was 3,858, compared with 3,843 on July 1, and 6,821 on Aug. 1, 1984.

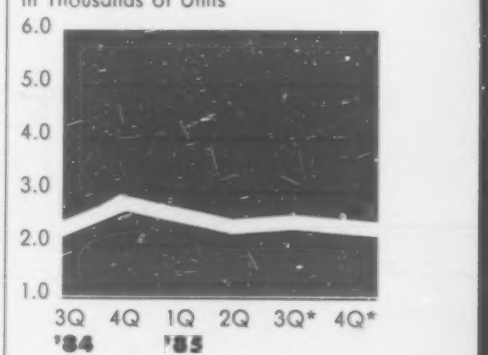
Meanwhile, 38 locomotives were placed in service in July, compared with 28 in June and 93 in July 1984.

As of August 1, the backlog of locomotives on order but undelivered totaled 274, compared with 267 on July 1, and 159 on Aug. 1, 1984.

Taking retirements into account, the fleet of owned and leased diesel-electric locomotives was 22,799 on August 1, compared with 23,043 on July 1, and 24,857 on August 1 a year ago.

A 4 pct drop in naval shipbuilding is likely in the fourth quarter.





PRICE & PRODUCTION DATA

(Effective September 9,1985)

Steel production by districts, thousands of tons (000 omitted)

	Last Week	Two Weeks Ago	Month Ago	Year Ago
Northeast Coast	182	171	173	181
Pittsburgh	149	154	167	187
Youngstown	91	98	93	73
Lake Erie	113	130	120	160
Detroit	147	140	135	143
Chicago	491	484	466	355
Cincinnati	90	94	87	89
St. Louis	72	71	60	50
Southern	182	187	206	161
Western	74	71	84	74
U.S. Production	1,591	1,600	1,591	1,473

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports. Rail transportation, handling and unloading may be charged to the account of the buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural ..... gross-ton 80.5u-86.9*
Mesabi, regular-unscreened ..... gross-ton $32.53
Mesabi, non-bessemer ..... gross-ton $30.03-31.53**

*80.50¢—Pickands Mather as of 1/27/81.
86.9¢—U.S. Steel as of 3/15/82. Cleveland-Cliffs as of 2/26/82. Oglebay Norton as of 3/25/82, and Hanna Mining as of 2/26/82.
**Effective 8/1/83.

STEEL PRODUCTION, COMPOSITE PRICES

(Effective September 9,1985)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1985	To Date 1984
Net tons, in thousands	1,591	1,600	60,779	66,868
Capability Utilization Rate	62.4	62.8	66.2	72.1

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 7/1/84)	27.582	27.582	27.582	27.582
Pig Iron** (Net ton = 2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.*** (Gross ton = 2240 lbs.)	$ 72.83	$ 73.50	$ 74.17	$ 85.17
No. 2 bundles	$ 53.17	$ 53.17	$ 53.83	$ 52.17

Scrap Comparison (Gross Ton)

No. 1 steel, Pittsburgh	$ 75.50	$ 75.50	$ 77.50	$ 92.50
No. 1 steel, Philadelphia	70.50	72.50	72.50	81.50
No. 1 steel, Chicago	72.50	72.50	72.50	81.50
No. 1 bundles, Detroit	69.50	69.50	69.50	77.50
Low Phos., Youngstown	70.50	70.50	70.50	80.50
No. 1 mach'y cast., Pgh	71.50	71.50	71.50	71.50
No. 1 mach'y cast., Phila	92.50	93.50	93.50	98.50
No. 1 mach'y cast., Chi	99.50	99.50	99.50	115.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.
**Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.
***Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

NONFERROUS PRICES

(Effective September 9,1985) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum (LME)	45.42	46.09	9/ 9/85
Copper (C)	66.00-67.00	66.50-67.00	9/ 9/85
Lead	19.00-20.00	19.50-20.00	9/ 9/85
Magnesium Ingot	148.00	143.00	5/25/84
Nickel (LME)	213.87	219.00	9/ 9/85
Titanium Sponge	555.00-585.00	555.00	4/29/82
Zinc	41.00	41.00-47.00	8/19/85

ALUMINUM: Avg. for last week & previous week. COPPER (C) = cathode. LEAD: common grade. MAGNESIUM: 99.8% pig, delivered. NICKEL: Avg. for last week & previous week. ZINC: high grade.

Antimony, American Laredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$236.00
Beryllium-copper, per lb. cont. Be	$144.00
Beryllium 97% powder 200	$197.00
Cadmium, ton lots	$1.00-1.25
Calcium, ton lots, crown	$3.76
Chromium, 99.8%	$3.75
Cobalt, 99%, cathode	$12.50
Gold per troy oz.	$319.60
Indium, dollars per troy oz.	$2.50
Iridium, dollars per troy oz.	$430.00
Magnesium sticks, 10,000 lbs.	$2.02
Mercury, per 76-lb. f.o.b. N.Y.	$320.00-330.00
Molybdenum, lb. tech. moly oxides, 20 lb. MO can	$6.85
Nickel electro (PDCR)	$3.29
Palladium, per troy oz.	$95.00
Platinum, per troy oz.	$309.50
Rhodium, per troy oz.	$920.00
Silver ingots, per troy oz.	$6.10
Vanadium	$6.00
Zirconium sponge	$12.00-17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb. EX-SMELTER, based on daily market in Penang in Malaysian dollars per kilo.)

Sept. 2—5.1.67
Sept. 3—555.81
Sept. 4—555.85
Sept. 5—Holiday
Sept. 6—550.49

Scrap Prices
Brass Mill Scrap

(Cents per lb; over 20,000 lbs. add 1¢ per lb)

	Solids	Turnings
Copper	59	48½
Yellow brass	52⅛	43½
Red brass	55⅜	45½
Comm. bronze	56½	46
Mang. bronze	45¼	44¼
Free cutting rod ends	47	46

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	55
No. 2 copper wire	47
Light copper	38

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	51
No. 2 copper wire	43
Light copper	34
No. 1 composition	46
No. 1 comp. turnings	44
Hvy. yellow brass solids	33
Hvy. yellow brass turnings	30
Radiators	35

Aluminum

New mixed clips	33	— 34
Old sheet	30	— 31
Old cast	30	— 31
Clean dry borings	31	— 32

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	24	— 26
Mixed I.C. clips	21	— 22
Old sheets and cast	20	— 21
Borings and turnings	16	— 18
Duraluminum clippings	24	— 25

Copper and Brass

No. 1 copper wire	45	— 46
No. 2 copper wire	37	— 39
Light copper	32	— 33
Radiators	30	— 31
No. 1 composition	39	— 40
No. 1 composition turnings	36	— 37
Cocks and faucets	28	— 29
Clean heavy yellow brass	27	— 28
Brass Pipe	28	— 29
New soft brass clippings	39	— 40

Lead

Heavy soft lead	6	— 8
Whole batteries	1	— 3
Type metal	16	— 17
Electrotype	13	— 15

Nickel

Nickel solids	120	—130
Nickel rod ends	120	—130
Nickel sheets, clips	120	—130
Nickel turnings	35	— 45

Zinc

New zinc clippings	17	— 18
Old diecast zinc	13	— 14

EFFECTIVE SEPTEMBER 9,1985

(Effective September 9, 1985) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of *Iron Age* editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 75.00 to	$ 76.00
No. 2 hvy. melting	65.00 to	66.00
No. 1 dealer bundles	90.00 to	91.00
No. 1 factory bundles (auto)	90.00 to	91.00
No. 2 bundles	54.00 to	55.00
No. 1 busheling	89.00 to	90.00
Machine shop turnings	7.00 to	8.00
Shoveling turnings	40.00 to	41.00
Cast iron borings	38.00 to	39.00
Low phos. punchings plate	92.00 to	93.00
Heavy turnings	65.00 to	66.00
No. 1 RR hvy. melting	81.00 to	82.00
Rails, 2 ft. and under	96.00 to	97.00
Scrap rails, random lgth	85.00 to	86.00
RR specialties	95.00 to	96.00
No. 1 machinery cast	71.00 to	72.00
Cupola cast	64.00 to	65.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	615.00 to	625.00
18-8 turnings	515.00 to	525.00

Chicago

No. 1 hvy. melting	$ 72.00 to	$ 73.00
No. 2 hvy. melting	67.00 to	68.00
No. 1 dealer bundles	88.00 to	89.00
No. 1 factory bundles (auto)	86.00 to	87.00
No. 2 dealer bundles	61.00 to	62.00
No. 1 busheling	84.00 to	85.00
Shredder scrap	84.00 to	85.00
Machine shop turnings	42.00 to	43.00
Mixed borings and turnings	44.00 to	45.00
Shoveling turnings	46.00 to	47.00
Cast iron borings	45.00 to	46.00
Low phos. forge crop	96.00 to	97.00
Low phos. punchings plate 1/4 in. and heavier	112.00 to	113.00
Low phos. 2 ft. and under	107.00 to	108.00
No. 1 RR hvy. melting	76.00 to	77.00
Scrap rails random lgth	82.00 to	83.00
Rerailer rails	107.00 to	108.00
Rails, 2 ft. and under	105.00 to	106.00
RR couplers and knuckles	94.00 to	95.00
RR car axles	111.00 to	112.00
No. 1 machinery cast	99.00 to	100.00
Cupola cast	92.00 to	93.00
Stove plate	89.00 to	90.00
Steel car wheels	89.00 to	90.00
Stainless		
18-8 bundles and solids	560.00 to	570.00
18-8 turnings	475.00 to	485.00
430 bundles and solids	150.00 to	155.00
430 turnings	120.00 to	125.00

Philadelphia

No. 1 hvy. melting	$ 69.00 to	$ 72.00
No. 2 hvy. melting	60.00 to	63.00
No. 1 dealer bundles	85.00 to	88.00
No. 2 dealer bundles	42.00 to	45.00
No. 1 busheling	82.00 to	85.00
Shredder scrap	85.00 to	88.00
Machine shop turnings	25.00 to	28.00
Mixed borings and turnings	25.00 to	28.00
Shoveling turnings	40.00 to	43.00
Low phos. 5 ft. and under	80.00 to	83.00
Low phos. 2 ft. punchings	99.00 to	102.00
Electric furnace bundles	89.00 to	92.00
RR specialties	80.00 to	83.00
Rails, 2 ft. and under	102.00 to	105.00
Cupola cast	76.00 to	79.00
Heavy breakable cast	53.00 to	56.00
No. 1 machinery cast	91.00 to	94.00

Detroit

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 54.00 to	$ 55.00
No. 2 hvy. melting	53.00 to	54.00
No. 1 dealer bundles	69.00 to	70.00
No. 2 bundles	30.00 to	31.00
No. 1 busheling	68.00 to	69.00
Drop forge flashings	44.00 to	45.00
Machine shop turnings	42.00 to	43.00
Mixed borings and turnings	21.00 to	22.00
Shoveling turnings	42.00 to	43.00
Cast iron borings	24.00 to	25.00
Heavy breakable cast	35.00 to	36.00
Mixed cupola cast	50.00 to	51.00
Automobile cast	74.00 to	75.00
Stainless		
18-8 bundles and solids	540.00 to	550.00
18-8 turnings	415.00 to	425.00
430 bundles and solids	115.00 to	125.00

Youngstown

No. 1 hvy. melting	$ 69.00 to	$ 72.00
No. 2 hvy. melting	58.00 to	61.00
No. 1 dealer bundles	76.00 to	79.00
No. 2 dealer bundles	33.00 to	36.00
Machine shop turnings	26.00 to	29.00
Shoveling turnings	26.00 to	29.00
Low phos. plate	69.00 to	72.00
Electric furnace bundles	73.00 to	76.00
Galvanized bundles	66.00 to	69.00

Cleveland

No. 1 hvy. melting	$ 58.00 to	$ 61.00
No. 2 hvy. melting	49.00 to	52.00
No. 1 dealer bundles	80.00 to	83.00
No. 1 factory bundles	69.00 to	72.00
No. 2 bundles	30.00 to	33.00
No. 1 busheling	75.00 to	78.00
Machine shop turnings	18.00 to	21.00
Mixed borings and turnings	9.00 to	12.00
Shoveling turnings	26.00 to	29.00
Cast iron borings	18.00 to	21.00
Cut structural & plates, 2 ft. and under	102.00 to	105.00
Low phos. punchings plate	102.00 to	105.00
Drop forge flashings	54.00 to	57.00
Foundry steel, 2 ft. & under	71.00 to	74.00
No. 1 RR hvy. melting	65.00 to	68.00
Rails, 2 ft. and under	92.00 to	95.00
Rails, 18 in. and under	96.00 to	99.00
Steel axle turnings	59.00 to	62.00
Railroad cast	91.00 to	94.00
No. 1 machinery cast	90.00 to	93.00
Cupola cast	57.00 to	60.00
Stove plate	56.00 to	59.00
Stainless		
18-8 bundles	385.00 to	395.00
18-8 turnings	335.00 to	345.00
430 bundles	90.00 to	95.00

Buffalo

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 55.00 to	$ 56.00
No. 2 hvy. melting	45.00 to	46.00
No. 1 busheling	70.00 to	71.00
No. 1 dealer bundles	69.00 to	70.00
No. 2 bundles	33.00 to	34.00
Machine shop turnings	17.00 to	18.00
Mixed boring and turnings	17.00 to	18.00
Shoveling turnings	23.00 to	24.00
Cast iron borings	25.00 to	26.00
Low phos. plate	77.00 to	78.00
Structural and plate, 2 ft. and under	81.00 to	82.00
Rails, 2 ft. and under	81.00 to	82.00
Scrap rails, random lgth	65.00 to	66.00
No. 1 machinery cast	76.00 to	77.00
No. 1 cupola cast	58.00 to	59.00

St. Louis

No. 1 hvy. melting	$ 50.00 to	$ 51.00
No. 2 hvy. melting	39.00 to	40.00
Foundry steel, 2 ft.	48.00 to	49.00
No. 1 dealer bundles	50.00 to	51.00
No. 2 bundles	34.00 to	35.00
Machine shop turnings	15.00 to	16.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	30.00 to	31.00
No. 1 RR hvy. melting	53.00 to	54.00
Rails, random length	59.00 to	60.00
Rails, 18 in. and under	72.00 to	73.00
RR specialties	70.00 to	71.00
Cupola cast	71.00 to	72.00
Heavy breakable cast	49.00 to	50.00
Stove plate	89.00 to	90.00
Steel car wheels	81.00 to	82.00
Rerolling rails	69.00 to	70.00
Unstripped motor blocks	64.00 to	65.00

Birmingham

No. 1 hvy. melting	$ 76.00 to	$ 77.00
No. 2 hvy. melting	72.00 to	73.00
No. 1 dealer bundles	76.00 to	77.00
No. 2 bundles	51.00 to	52.00
No. 1 busheling	76.00 to	77.00
Shredder scrap	93.00 to	94.00
Machine shop turnings	27.00 to	28.00
Shoveling turnings	40.00 to	41.00
Cast iron borings	39.00 to	40.00
Electric furnace bundles	68.00 to	69.00
Elec. furnace, 3 ft. & under	72.00 to	73.00
Structural and plate, 2 ft.	93.00 to	94.00
Structural and plate, 4 ft.	88.00 to	89.00
No. 1 RR hvy. melting	88.00 to	89.00
Scrap rails, random lgth	80.00 to	81.00
Rails, 2 ft. and under	94.00 to	95.00
Angles and splice bars	86.00 to	87.00
No. 1 cupola cast	86.00 to	87.00
Unstripped motor blocks	76.00 to	77.00

Cincinnati

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 54.00 to	$ 55.00
No. 2 hvy. melting	53.00 to	54.00
No. 1 dealer bundles	64.00 to	65.00
No. 2 bundles	34.00 to	35.00
Machine shop turnings	9.00 to	10.00
Shoveling turnings	11.00 to	12.00
Cast iron borings	15.00 to	16.00
Low phos. 18 in. and under	79.00 to	80.00
Rails, random length	64.00 to	65.00
Rails, 2 ft. and under	74.00 to	75.00
No. 1 cupola cast	59.00 to	60.00
Heavy breakable cast	24.00 to	25.00
Drop broken cast	71.00 to	72.00

New York

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 44.00 to	$ 45.00
No. 2 hvy. melting	35.00 to	36.00
No. 2 dealer bundles	20.00 to	24.00
Mixed borings and turnings	10.00 to	11.00
Machine shop turnings	4.00 to	6.00
Shoveling turnings	10.00 to	12.00
Clean cast, chem. borings	35.00 to	36.00
No. 1 machinery cast	79.00 to	80.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	520.00 to	540.00
18-8 turnings	420.00 to	440.00
430 prepared solids	90.00 to	110.00
410 solids	80.00 to	90.00

Boston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 51.00 to	$ 53.00
No. 2 hvy. melting	41.00 to	43.00
No. 1 dealer bundles	53.00 to	55.00
No. 2 bundles	34.00 to	36.00
No. 1 busheling	59.00 to	61.00
Shredder scrap	61.00 to	63.00
Machine shop turnings	12.00 to	14.00
Shoveling turnings	18.00 to	20.00
No. 1 machinery cast	75.00 to	80.00
Mixed cupola cast	46.00 to	48.00
Heavy breakable cast	8.00 to	10.00

San Francisco

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	32.00 to	34.00
No. 1 dealer bundles	29.00 to	31.00
No. 2 dealer bundles	17.00 to	19.00
Machine shop turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
No. 1 cupola cast	80.00 to	82.00

Los Angeles

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	32.00 to	34.00
No. 1 dealer bundles	29.00 to	31.00
No. 2 dealer bundles	16.00 to	18.00
Machine shop turnings	13.00 to	14.00
Shoveling turnings	10.00 to	11.00
Cast iron borings	8.00 to	9.00
Elec. furnace, 1 ft. and under (foundry)	70.00 to	72.00
No. 1 cupola cast	72.00 to	74.00

Seattle

No. 1 hvy. melting	60.00 to	62.00
No. 2 hvy. melting	51.00 to	53.00
No. 2 bundles	35.00 to	37.00
No. 1 cupola cast	89.00 to	90.00
Mixed yard cast	80.00 to	82.00

Hamilton, Ont.

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 82.00
No. 2 hvy. melting, cut 2 ft. and under	72.00
No. 1 dealer bundles	83.00
No. 2 bundles	58.00
Mixed steel scrap	53.00
Bush. new fact. prep'd	83.00
Bush. new fact. unprp'd	73.00
Machine shop turnings	35.00
Short steel turnings	35.00
Mixed borings and turnings	20.00
Cast scrap	89.00

Houston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 70.00 to	$ 71.00
No. 2 hvy. melting	57.00 to	58.00
No. 2 bundles	43.00 to	44.00
Machine shop turnings	13.00 to	14.00
Crushed turnings	33.00 to	34.00
Shredder scrap	77.00 to	78.00
Cut structural plate, 2 ft. and under	100.00 to	101.00
Cut structural plate, 5 ft. and under	82.00 to	83.00
Unstripped motor blocks	60.00 to	61.00
Cupola cast	86.00 to	87.00

PRODUCER KEY
With Principal Offices

A7 Armco Inc., Middletown, Ohio
A8 Atlantic Steel Co., Atlanta, Ga.
A11 Atlantic Wire Co., Branford, Conn.

B1 Baron Drawn Steel Corp., Toledo, Ohio
B3 Bethlehem Steel Corp., Bethlehem, Pa.
B4 Blair Strip Steel Co., New Castle, Pa.
B5 Bliss & Laughlin Steel Co., Harvey, Ill.

C6 CF&I Steel Corp., Pueblo, Colo.
C10 Copperweld Steel Co., Warren, Ohio
C16 Connors Steel Co., Birmingham, Ala.
C20 Calumet Steel Div., Chicago Heights, Ill.

D1 Detroit Strip Div., Cyclops Corp.

E4 Elliot Bros. Steel Co., New Castle, Pa.

F1 Firth Sterling, Inc., McKeesport, Pa.

G2 Granite City Steel Div., National Steel Corp., Granite City, Ill.
G3 Great Lakes Steel Div., National Steel Corp., Ecorse, Mich.
G4 Greer Steel Co., Dover, Ohio
G5 Green River Steel Corp., Owensboro, Ky.
G6 Gibraltar Steel Corp., Buffalo, N. Y.
G7 Georgetown Steel Corp., Georgetown, S.C.

H1 Hercules Drawn Steel Corp., Livonia, Mich.

I2 Ingersoll Steel Div., Newcastle, Ind.
I3 Inland Steel Co., Chicago
I4 Interlake Steel Corp., Chicago

J2 Jessop Steel Corp., Washington, Pa.
J3 Jones & Laughlin Steel Corp., Pittsburgh
J4 Joslyn Mfg. & Supply Co., Chicago
J5 Judson Steel Corp., Emeryville, Calif.

K2 Keystone Consolidated Industries, Inc.
K3 Kentucky Electric Steel Co., Ashland, Ky.
K5 Kemco Div., Foote Mineral Co., Keokuk, Ia.

L2 La Salle Steel Co., Chicago
L3 Lone Star Steel Co., Dallas
L4 Lukens, Inc., Coatesville, Pa.

M2 McLouth Steel Products Corp., Detroit
M8 Mill Strip Products Div., National Steel Service Center, National Steel Corp.
M9 Maltrup Steel Products Co., Beaver Falls, Pa.
M11 Midwest Steel Div., National Steel Corp., Portage, Ind.

N1 Northeast Precision Steel Co., Boston
N4 Northwestern Steel & Wire Co., Sterling, Ill.
N6 Northwest Steel Rolling Mills, Seattle
N9 Nelsen Steel & Wire Co., Chicago
N10 North Star Steel Co., Saint Paul, Minn.

O2 Oregon Steel Mills, Portland, Ore.

P2 Phoenix Steel Corp., Claymont, Del.
P15 Philadelphia Steel and Wire Corp., Phila.

R3 Republic Steel Corp., Cleveland
R4 Ramco Steel Co., Buffalo, N. Y.
R5 Roblin Steel Corp., North Tonawanda, N.Y.
R7 Rome Strip Steel Co., Rome, N. Y.

S1 Sharon Steel Corp., Sharon, Pa.
S7 Stanley Works, New Britain, Conn.
S8 Superior Drawn Steel Co., Monaca, Pa.
S10 Seneca Steel Corp., Buffalo, N. Y.
S16 Southern Precision Steel Co., Gulfport, Miss.

T4 Thomas Steel Strip Co., Warren, Ohio
T5 Timken Co., Steel Division, Canton, Ohio
T7 Texas Steel Co., Fort Worth, Tex.
T9 Triumph Electro Corp., Chicago
T10 Tennessee Forging Steel Corp., Harriman, Tenn.
T11 Teledyne Columbia-Summerill, Carnegie, Pa.

U1 United States Steel Corp., Pittsburgh

W3 Weirton Steel Corp., Weirton, W. Va.
W5 Wheeling-Pittsburgh Steel Corp.
W7 Wilson Steel & Wire Co., Chicago
W10 Wyckoff Steel Div., Ampco-Pittsburgh Corp., Pittsburgh
W14 Whittar Steel Strip Div., Whittar Industries, Ltd., Detroit

STEEL SERVICE CENTER PRICES

Price, Dollars per 100 lb

Prices are based on list prices reported to *Iron Age* by a number of metal service centers deemed representative by *Iron Age* and then weighted based in part on the reports received each month. Prices are not intended to reflect the actual transaction prices obtained by any individual metal service center.

Cities* (City Delivery Charge*)	Sheets			Strip	Plates	Shapes	Bars		Alloy Bars			
	Hot-Rolled (10 gage)	Cold-Rolled (20 gage)	Galvanized (16 gage)	Hot-Rolled Strip	Plates	Standard Structurals	Hot Rolled (merchant)	Cold Finished	Hot-Rolled 8620 As Rolled	Hot Rolled 4140 Annealed	Cold Drawn 8620 As Rolled	Cold Drawn 4140 Annealed
Atlanta	24.79	30.91	32.02	27.11	24.65	22.82	20.60	28.91	31.43	45.15	60.50	67.56
Baltimore	24.74	28.97	34.02	31.60	29.01	28.09	23.33	33.26	46.54	50.09	60.10	66.46
Birmingham	23.42	27.62	33.60	26.90	23.34	22.93	21.90	29.31	43.72	49.95	60.60	68.74
Boston	31.59	37.08	43.12	42.00	30.89	29.30	24.56	32.75	38.73	40.76	50.37	55.65
Buffalo	28.59	33.52	39.73	34.70	28.34	25.44	20.81	30.25	37.80	38.76	46.48	53.50
Chicago	26.44	32.81	36.03	24.69	21.58	19.53	18.85	25.17	29.30	36.60	44.26	49.91
Cincinnati	27.32	32.94	35.92	25.42	24.32	19.48	18.23	26.52	31.24	37.71	44.52	49.89
Cleveland	26.20	32.17	35.64	28.06	23.85	21.75	18.60	28.43	34.10	37.75	44.76	51.24
Denver	28.91	35.17	34.44	30.85	26.52	23.80	21.04	35.57	44.41	51.10	60.29	64.85
Detroit	27.06	33.16	36.33	24.60	24.32	20.10	18.61	26.50	31.14	37.38	44.57	50.47
Houston	25.45	27.06	30.33	32.18	24.38	23.91	21.60	36.83	42.12	42.29	55.65	62.74
Kansas City	28.25	34.67	36.90	27.32	25.01	20.85	17.95	31.15	36.41	40.14	46.87	51.81
Los Angeles	24.86	29.24	35.08	29.36	25.93	31.65	26.64	34.89	47.00	50.34	60.30	67.40
Memphis	22.36	30.60	31.64	27.36	24.09	23.75	21.20	30.68	33.71	44.50	56.48	65.86
Milwaukee	26.66	32.57	35.82	26.71	24.65	20.88	18.82	25.34	32.23	37.07	43.78	49.90
New York	29.82	36.09	40.14	36.75	30.33	24.64	22.02	33.23	36.74	41.73	46.90	52.12
Philadelphia	25.80	32.64	38.45	38.58	27.62	25.70	21.80	29.18	37.35	42.37	50.90	57.27
Pittsburgh	36.58	38.19	42.78	34.69	33.03	27.38	25.17	27.58	35.31	39.45	46.84	51.06
Portland	26.61	29.47	36.46	31.87	32.22	34.05	27.09	36.70	46.18	50.95	65.50	.....
San Francisco	24.76	29.74	35.87	29.52	25.35	29.46	26.71	35.48	48.99	50.84	60.35	67.40
Seattle	28.00	28.24	35.47	28.38	21.03	27.00	26.70	35.43	43.61	52.61	65.62	66.15
Spokane	19.51	28.65	35.34	31.74	31.68	33.23	23.00	37.00	39.45	42.47	.....	55.15
St. Louis	26.74	29.84	36.00	27.19	23.23	19.55	19.18	29.34	34.95	38.39	45.11	50.75
St. Paul	26.53	31.58	34.23	31.29	23.33	26.12	18.68	29.18	34.40	37.59	44.36	50.29

Base Quantities: All HR products may be combined for quantity. Hot-rolled sheet, 10 ga x 36 x 96—120, Cold-rolled sheet, 20 ga x 36 x 120, Galv. sheet—16 ga x 36—120; Hot-rolled strip—1/8" x 1"; Plate 1/4" x 84"; Shapes—I-Beams 6 x 12.5; Hot-rolled bar—Rounds 3/4-2-15/16; Cold finished bar—C 1018—1" rounds; Alloy bar—Hot-rolled 8620—1-5/8" round; Cold drawn—1" round; Hot-rolled 4140—1-5/8" round; Cold drawn—1" round. Check local supplier for additions or deductions from base.

*Prices at all points include metropolitan delivery charges.

Codes identify Producers listed on p. 96. (Prices quoted are mill base prices in cents per pound unless otherwise noted and do not reflect extras or surcharges.)
N.A. = Not available.

Billets, Blooms, Slabs

(Dollars per net ton)

Carbon Rerolling, Midwest
W5 $366.00
N4 $366.00
West
C6 $346.00
Carbon Forging, East
B3(2) $473.00
C10, U1 $473.00
R3 $453.00
Midwest
R3, W5 $453.00
U1 $473.00
S1, I3 $473.00
C10 $473.00
K2 $473.00
West
C6 $420.00
Alloy, East
R3 $492.00
B3 $512.00
U1, C10 $512.00
Midwest
W5 $492.00
U1, I3 $512.00
C10 $512.00
R3 $492.00
S1 $512.00
West
C6 $469.00

Structurals

Carbon, East
B3 22.90
J3 23.90
Midwest
C20 22.90
W8 22.90
I3 23.90
T10 23.90
N4 23.90
South
C16 23.90
T10 22.90
High-Strength, Low Alloy, East
B3 22.90
J3 23.90
Midwest
N4 23.90
W8 24.15
I3 23.90
South
C16 23.90
Wide Flange, Carbon, East
B3 22.90
U1 22.75
J3 23.90
Midwest
U1 22.75
N4 23.90
I3 23.90
Wide Flange, High Strength-Low Alloy, East
U1 24.30
Midwest
U1 24.30

Strip

Hot-Rolled, Carbon, Cut II Edge—all widths, East
U1, B3 23.75
J3 22.05
Midwest
D1 22.05
I4 22.85
J3, W3 22.05
G2, G3 23.45
N4 22.55
W5, S1 23.75
U1, A7 23.75
I3, B3 23.75
M2 22.05
R3 22.05
South
R3 22.05
Cold-Rolled, Carbon Max. 25%, East
E4 29.75
S10 29.60
P15 24.80
B4 36.60
G6 36.175
Midwest
I4 38.30
W14 32.80
J4 34.05
S1 37.05
High-Strength, Hot-Rolled, Low Alloy, Cut Edge & Mill Edge, All widths, (plus extras)*
Midwest
M2, R3 22.05
W3, J3 22.05
G2, G3 23.45
S1 23.75
A7 25.35
South
R3 22.05
High-Strength, Cold-Rolled, Low Alloy, Mill Edge
Midwest
S1 37.05
Alloy, Hot-Rolled, Midwest (plus extras)*
S1 26.10
I4 25.20
Alloy, Cold-Rolled East (plus extras)*
E4,M8 43.35
B4 49.75
P15 32.10
Midwest
I4 44.30
S1 44.80

Sheets

Hot-Rolled, Carbon (18 Ga & Hvyr), East
B3 23.75
J3 22.05
U1 23.75
Midwest
M2, R3, W3 22.05
D1, J3 22.05
G2, G3 23.45
I4 22.45
U1, W5 23.75
S1, B3 23.75
I3, A7 23.75
West
U1 24.25
South
R3 22.05
Cold-Rolled, East, Class I
B3(2) 28.15
J3 26.15
U1 28.15
Midwest
R3, M2, W3 26.15
G2, G3, M11 27.85
J3 26.15
D1 26.15
U1, W5 28.15
S1, B3 28.15
I3, A7 28.15
West
U1 28.65
South
R3 24.65
Galvanized (hot-dipped), East
B3(2) 30.30
U1 30.30
Midwest
J3, D1, W3 28.00
R3, Y1 28.00
G2, M11 30.00
U1, W5 30.30
S1 30.30
I3 30.30
A7 30.30
West
U1 30.80
South
R3 28.00
Enameling, Midwest
U1, S1 29.65
I3, A7 29.65
J3 27.65
Long-Terne, Midwest
W5, A7, U1 31.65
R3 29.35

Wire Rod

East
B3(2) 22.35
Midwest
N4, K2 22.35
U1 24.10
A7 22.00
West
C6 21.45
South
G7 22.35

Tinplate

Electrolytic Tinplate
Single Reduced (70 lb)

East	per base box
J3	26.29
U1	28.99
Midwest	
U1	28.99
J3	26.29
M11	27.54
W3	26.29
W5	28.99
West	
U1	29.49
South	
U1	28.99

Double Reduced (55 lb)**
Midwest
M11 21.95
J3 21.49
U1 23.38
W3 21.49
W5 23.38
West
U1 23.88
South
U1 23.38
Black Plate
Single Reduced (70 lb)*
East
B3 24.81
Midwest
J3, W3 24.01
I3 24.57
W5 25.55
U1, 26.27
M11 26.27
West
U1 26.27
Double Reduced (55 lb)
East
B3 20.49
Midwest
W5, M11, U1 20.49
J3 18.93
W3 18.93
West
U1 20.49
South
U1 20.49
*75 lb—base weight extra 69¢
**50 lb—base weight extra $1.40

Bars

Carbon Steel, Hot-Rolled (Special quality)
East
R3, K3, R5 25.80
J3 25.80
U1 27.05
C10 27.05
B3 27.05
Midwest
I4 26.00
U1, I3 27.05
R3, T10 25.80
C20, N4 25.80
K2 25.80
A7 20.25
West
C6 24.45
South
A8 20.65
C16 25.80
Cold-Finished Carbon, East
A11 22.15
R3 33.75
T11, S8 31.00
J3(4), L2 31.00
M8, W10 31.00
N1 24.475
R4, B4 33.25
C10 31.00
Midwest
W10, R3 33.25
J3 31.00
B1 33.45
L2 30.75
N9 31.00
W14 22.20
B5, M9 34.75
West
R3 37.15
South
J3 34.00
C16 24.40
J3 31.95
Alloy, Hot-Rolled, East
R5, K3 27.95
R3, J3 27.95
U1 29.20
B3 29.20
C10 29.20
Midwest
R3 27.95
I3, C10, U1 29.20
I4 27.35
A7 20.25
West
C6 26.60
South
A8 22.00
Alloy, Cold-Drawn, East
L2 35.20
R3, N1 37.90
R4 37.10
J3, W10, L2 34.85
T11, S8 34.85
C10 34.85
Midwest
R3 37.35
J3, W10, C10 34.85
B1 37.30
N9 34.85
L2 34.85
B5, M9 38.60
West
R3 40.75
South
J3 35.85
C16 28.00

Plates

Carbon Steel, East
B3 23.25
L4, U1 25.75
P2 23.25
J3 26.75
Midwest
B3 23.25
I3 25.75
J3, A7 22.80
U1, I4, S1 25.75
R3 26.75
West
U1 25.75
O2 23.00
South
R3 25.75
U1 25.75
Alloy East
B3 31.05
U1, L4 33.55
P2 33.55
J3 34.55
Midwest
B3 31.05
I4, U1 33.55
West
O2 31.00
South
U1 33.55

Wire

Carbon Steel Wire, East
B3 27.10
A11 22.15
Midwest
R3 24.60
N4, W7 27.40
K2 24.20
South
A8 22.85
West
C6 24.95

UP-AGAIN, DOWN-AGAIN; ORDERS DOWN AGAIN

Following a hopeful three-month stretch of increases, durable new orders skidded in July. Orders received by durable goods producers were down 2.3 pct from June.

It is hard to tell if the July slide was just a setback in an uptrend or a turnaround in direction for orders. After all, over the past 12-month period through July, orders slipped seven months and were up five months.

This up-and-down trend resulted in little over-the-year growth thrust for orders. Dollar volume in July was up only 2.4 pct from the same period a year ago. Worse, orders in July were down 1 pct from dollar volume at the start of this year.

These are tough days for corporate planners trying to draw a bead on the outlook for new orders for durable goods. As one noted, "Going back a year in time, who would then have forecast a roller-coaster ride for orders for the next 12 months?"

In looking at July orders data, it is clear where the big weakness in orders was centered during the month. Total orders were down $2.4 billion, or 2.3 pct. Some two-thirds of that decline came in transportation equipment industries, specifically, in aircraft, missiles and parts and in shipbuilding and military tanks. Aircraft and parts orders—the big losers—decreased $1.2 billion.

Also down in July were most machinery lines, both electrical and nonelectrical. Further, a $200 million decline in primary metals orders marked the July period.

Much of the orders softness in July was centered in defense-related orders in aircraft and shipbuilding. And beyond the single month of July, it has been flip-flops in defense-related orders that has accounted for much of the up-and-down trend for total orders.

Billions of Dollars, Seasonally adjusted Monthly Total, unless otherwise noted Source: U.S. Dept of Commerce		Latest Month or Qtr	Previous Month or Qtr	Same Period Year Ago
CAPITAL EXPENDITURES (Annual Rates)				
U.S. Industry, Total	3rd Qtr*	$392.6	$385.3	$361.1
Manufacturing, Total	3rd Qtr*	160.8	155.5	142.0
Manufacturing, Durable Goods	3rd Qtr*	77.8	75.7	68.3
Mining Industry	3rd Qtr*	16.2	16.5	17.0
KEY INDICATORS, Durable Goods Manufacturing				
New Orders	July	104.4	106.8	102.0
Shipments	July	102.5	102.7	97.8
Inventories	July	192.4	192.2	184.6
Unfilled Orders	July	351.1	349.3	348.7
NEW ORDERS, METALWORKING				
Capital Goods Producers, Nondefense Industries	July	26.5	28.0	28.1
Capital Goods Producers Defense Industries	July	9.7	11.2	7.6
Primary Metals, Total	July	10.6	10.7	11.0
Steel (SIC 331)	July	4.5	4.3	4.4
Iron & Steel Castings (SIC 332)	July	1.3	1.2	1.4
Nonferrous Metals	July	4.8	5.2	5.2
Nonelectrical Mach.-Equip. Industries, Total	July	17.6	17.8	18.7
Engines & Turbines	July	1.3	1.5	2.1
Farm Machinery & Equipment (Shipments)	July	0.8	0.8	0.8
Construction, Mining & Mat. Hdlg. Equip.	July	3.1	2.8	2.8
General Industrial Machinery	July	1.3	1.5	1.4
Fluid Power Equipment** (Index 1972 = 100)	July	261.0	254.0	282.0
Metalworking Machinery	July	1.0	1.0	1.2
Machine Tools, Total ($Mill., Unadjusted)***	July	201.0	235.2	313.4
Machine Tools, Metalcutting***	July	151.0	182.9	135.9
Machine Tools, Metalforming***	July	50.0	52.3	177.5
Electrical Mach. & Equip. Industries, Total	July	15.0	16.2	16.2
Elec. Transmission Equip. & Ind. Apparatus	July	2.1	2.0	2.0
Household Appliances	July	1.3	1.5	1.5
Communication Equipment	July	5.0	6.7	5.4
Transportation Equipment, Total	July	26.7	28.3	25.2
Motor Vehicles & Parts (Shipments)	July	15.8	15.3	15.6
Aircraft, Missiles & Parts	July	9.4	10.6	8.4
Shipbuilding & Military Tanks	July	1.1	1.4	0.5
Fabricated Metal Products, Total	July	14.2	13.4	11.4
Instruments, Total	July	5.1	4.9	4.6